BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

DOCKET NOS. 2021-143-E & 2021-144-E

In the Matters of:)
)
Application of Duke Energy Progress, LLC)
for Approval of Smart \$aver Solar as) DIRECT TESTIMONY OF
Energy Efficiency Program) TIMOTHY DUFF FOR DUKE
) ENERGY PROGRESS, LLC AND
Application of Duke Energy Carolinas,) DUKE ENERGY CAROLINAS, LLC
LLC for Approval of Smart \$aver Solar as)
Energy Efficiency Program)
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1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

- 2 A. My name is Timothy J. Duff, and my business address is 400 S Tryon Street, Charlotte,
- 3 North Carolina.

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4 Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

- I am employed by Duke Energy Business Services LLC as General Manager, Grid Strategy
 Enablement. I am responsible for the development of strategies and policies related to the
 implementation of energy efficiency and other retail products and services that create
 customer and utility system value. I also oversee the analytics functions associated with
 evaluating and tracking the performance of Duke Energy Corporation's ("Duke Energy")
 Integrated Grid Solution retail products and services. My responsibilities cover all of Duke
 Energy's utility operating companies, including Duke Energy Carolinas, LLC ("DEC") and
- 13 Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
 14 PROFESSIONAL EXPERIENCE.

Duke Energy Progress, LLC ("DEP" and together with DEC, the "Companies")

15 I graduated from Michigan State University with a Bachelor of Arts in Political Economics A. 16 and a Bachelor of Arts in Business Administration, and received a Master of Business 17 Administration degree from the Stephen M. Ross School of Business at the University of 18 Michigan. I started my career with Ford Motor Company and worked in a variety of roles 19 within the company's financial organization, including Operations Financial Analyst and 20 Budget Rent-A-Car Account Controller. After five years at Ford Motor Company, I started 21 working with Cinergy in 2001, providing business and financial support to plant operating 22 staff. Eighteen months later I joined Cinergy's Rates Department, where I provided 23 revenue requirement analytics and general rate support for the company's transfer of three

generating plants. After my time in the Rates Department, I spent a short period of time in the Environmental Strategy Department, and then I joined Cinergy's Regulatory and Legislative Strategy Department. After Cinergy merged with Duke Energy in 2006, I served as Managing Director, Federal Regulatory Policy for four years. In this role, I was primarily responsible for developing and advocating Duke Energy's policy positions with the Federal Energy Regulatory Commission. In 2010, I was named General Manager, Energy Efficiency & Smart Grid Policy and Collaboration. Since 2010, I have held a number of positions related to analyzing and gaining regulatory approval of customer product and service offerings including energy efficiency and demand response. I assumed my current position in April of 2021.

Q. HAVE YOU TESTIFIED BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA (THE "COMMISSION") IN ANY PRIOR PROCEEDINGS?

A. Yes, I testified in DEC's proceeding related to its new cost recovery mechanism (the "Mechanism") and portfolio of demand-side management ("DSM") and energy efficiency ("EE") programs in Docket No. 2013-298-E. I have also appeared before the Commission in two ex parte briefings related to DEC's Integrated Resource Plan, specifically discussing DEC's portfolio of EE and demand response programs. I have also testified on DSM and EE matters before the commissions in North Carolina, Ohio, Indiana, and Kentucky.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my direct testimony is to give an overview of the residential Smart \$aver

Solar as Energy Efficiency Programs (collectively, the "Program") as proposed by DEC

and DEP, explain why the Program is appropriately considered an EE/DSM program, and

explain how the Program will operate within the Companies' suite of EE/DSM programs.

1 Q. ARE YOU INCLUDING ANY EXHIBITS IN SUPPORT OF YOUR TESTIMONY?

- 2 A. Yes, I am sponsoring DEC's and DEP's Program applications (the "Applications") as Duff
- 3 Direct Exhibit Nos. 1 and 2, respectively.
- 4 Q. WERE THESE EXHIBITS PREPARED BY YOU OR UNDER YOUR
- 5 **SUPERVISION?**
- 6 A. Yes.

7 Q. PLEASE PROVIDE AN OVERVIEW OF THE PROPOSED PROGRAM.

- 8 A. The Program is designed to help customers become more energy efficient by reducing
- 9 participating customers' energy consumption from the electric grid by incentivizing the
- installation of solar photovoltaic ("PV") facilities at a residential premise. Similar to other
- at-home EE equipment, such as higher-efficiency heat pumps or heavier attic insulation,
- residential PV will allow participating customers to reduce their energy consumption from
- the grid, thereby producing utility system benefits for all customers.

14 Q. WHY DO YOU CONSIDER THE PROGRAM TO BE AN EE PROGRAM?

- 15 A. EE programs are designed to incentivize customers to reduce their energy consumption
- and—by incentivizing the installation of solar PV facilities—the Program allows
- 17 customers to reduce their energy consumption from the grid. While this is a new program,
- it aligns with the characteristics of the Companies' other EE programs and measures, which
- come in all different shapes and sizes. For example, the My Home Energy Report reduces
- grid energy usage by providing customers education and engagement around their energy
- usage and then empowers them with targeted means for them to become more energy
- 22 efficienct. The addition of higher grade insulation within a home reduces grid energy usage
- by retaining heat during the winter and retaining cool air during the summer. A higher

SEER, more efficient heat pump reduces grid energy usage by allowing the heating of a home using less electricity. Like these other measures, the Program proposed in these dockets also reduces grid energy usage, in this case by incentivizing customers to install behind-the-meter PV facilities.

Further, S.C. Code Ann. § 58-37-20 defines EE/DSM programs to specifically include those implemented "for the reduction or more efficient use of energy requirements of the utility or its customers including, but not limited to, . . . renewable energy technologies." The Program proposed in the Applications would literally reduce the energy requirements of the utility and its customers through renewable energy technologies.

S.C. Code Ann. § 58-37-20 also requires that the EE/DSM Mechanism adopted by the Commission "provide incentives and cost recovery for energy suppliers and distributors who invest in energy supply and end-use technologies that are cost-effective, environmentally acceptable, and reduce energy consumption or demand." Again, the proposed Program is designed to cost-effectively incentivize customers to install environmentally acceptable physical equipment that will reduce their energy consumption or demand in compliance with the statute.

Q. HAS THE COMMISSION EVER APPROVED A SOLAR PROGRAM AS AN EE/DSM PROGRAM?

A. Yes. DEP applied for approval of a Solar Water Heating Pilot Program as part of its initial slate of EE/DSM programs in 2009. *See* DEP Filing, Docket No. 2009-190-E (May 11, 2009). The Solar Water Heating Pilot was approved by the Commission through Order No. 2009-374, in which the Commission concluded the following:

The programs before us are consistent with the DSM/EE principles of Order No. 2009-373, meet the requirements of S.C. Code Ann. Section 58-37-20

1 2 3 4 5 6 7 8 9		(Supp. 2008), are cost effective for consumers, and implement measures that will benefit South Carolina. Initiating demand response by reducing peak energy demand by participant customers (such as those who allow their air conditioning or other high energy use equipment to be interrupted during times of heavy load on the system) and other programs designed to encourage efficiency upgrades to residences and appliances, both in existing homes and new construction, are important steps to more wisely using electricity. Therefore, we find that these Demand-Side Management and Energy Efficiency programs are in the public interest and should be, and are approved.
11		Order No. 2009-374 at 2, Docket No. 2009-190-E (June 26, 2009).
12	Q.	DOES THE CURRENTLY EFFECTIVE EE/DSM MECHANISM SUPPORT
13		APPROVAL OF THE PROGRAM?
14	A.	Yes. The Commission approved DEC's and DEP's currently effective EE/DSM
15		Mechanisms through Order Nos. 2021-32 and 2021-33, respectively. Both Companies'
16		Mechanisms require that proposed EE/DSM programs are:
17		• commercially available and sufficiently mature;
18		• applicable to the utility's service area demographics and climate;
19		• feasible for a utility DSM/EE program; and
20		• cost-effective.
21		Consistent with the Commission-approved Mechanisms, solar PV under the proposed
22		Program is: (1) commercially available and sufficiently mature; (2) applicable to the
23		Companies' service area demographics and climate; (3) feasible for a EE/DSM program
24		inasmuch as solar PV is installed on the Companies' systems; and (4) the proposed
25		Program passes the applicable cost-effectiveness screen.
26		Further, the Companies have repeatedly committed to proposing EE/DSM
27		programs that meet these criteria in order to maximize EE/DSM programs that bring
28		savings to customers, and the same has recently been encouraged by the Commission.

- Order No. 2021-447 at 34, Docket Nos. 2019-224-E & 2019-225-E (June 28, 2021) ("Duke is encouraged to capitalize on EE/DSM saving opportunities to reduce energy costs, as well as the risk of rising energy costs, for all Duke customers.").
- 4 Q. WILL THE PROGRAM DETRACT FROM OR OTHERWISE IMPAIR THE
- 5 COMPANIES' PURSUIT OF SAVINGS FROM OTHER EE/DSM PROGRAMS?
- 6 A. No. The Companies are proposing the Program as an addition to and enhancement of their 7 existing portfolios of EE/DSM offerings. The Companies do not intend for the Program to 8 replace or curtail their efforts around existing or potential new EE/DSM program offerings 9 in any way, and the Companies will continue to aggressively pursue cost-effective 10 EE/DSM savings through other programs and measures. In fact, the Companies believe 11 that, because of their standing practice of leveraging cross-program marketing and 12 promotion, the addition of the Program has the potential to increase customer awareness and participation in other EE/DSM programs within their portfolios. 13
- 14 Q. PLEASE DESCRIBE AND EXPLAIN THE "APPLICABLE COST15 EFFECTIVENESS SCREEN" MENTIONED ABOVE.
- 16 A. In accordance with Order Nos. 2021-32 and 2021-33, the Program must be evaluated under
 17 the Utility Cost Test (the "UCT") and receive a score of at least 1.0. The Program's cost
 18 effectiveness score under the UCT for DEC is 2.52 and for DEP is 1.95.¹
- 19 Q. WHAT DOES A UCT SCORE GREATER THAN 1.0 INDICATE?
- A. A UCT score of greater than 1.0 indicates that the benefits to the utility system exceed the costs. The UCT is more fulsomely described in the Mechanism approved by the Commission:

¹ The UCT score provided in the Application for DEC was 2.58, while the actual UCT score for DEC is 2.52.

Utility Cost Test ("UCT") means a cost-effectiveness test that measures the net costs of a DSM or EE Program or portfolio as a resource option based on the incremental costs incurred by the utility (including incentive costs paid by the utility to or on behalf of participants) and excluding any net costs incurred by the participants. The benefits for the UCT are the avoided supply costs (i.e., the reduction in generation capacity costs, transmission and distribution capacity costs, and energy costs caused by a load reduction), valued at marginal cost for the periods when there is a load reduction.

Order No. 2021-32, Order Exhibit No. 1 at 29, Docket No. 2013-298-E (Jan. 15, 2021); Order No. 2021-33, Order Exhibit No. 1 at 32, Docket No. 2015-163-E (Jan. 15, 2021).

In other words, the UCT compares the utility system benefits of implementing an EE/DSM program to the cost incurred by the utility to achieve those benefits. Given this straightforward benefit-to-cost comparison, for programs with a UCT score greater than 1.0, it would be uneconomic and cost customers more money for the utility not to pursue implementation of the program.

17 Q. WHAT ARE THE BENEFITS AND COSTS OF IMPLEMENTING THE 18 PROGRAM?

As described above and in the approved EE/DSM Cost Recovery Mechanisms that are used to evaluate EE and DSM programs, the reduction in participating customer consumption will reduce utility system costs—resulting in savings to customers—by avoiding electric production, avoiding electric capacity, and avoiding electric transmission and distribution investment per the UCT cost-effectiveness evaluation. The Companies estimate that these total avoided costs are approximately \$26.5 million for DEC and \$3.9 million for DEP. In comparison, the estimated costs of the Program are \$10.5 million for DEC and \$2.0 million for DEP. Based on this UCT evaluation, it would cost the Companies' customers more if the Program was not implemented.

Q. HOW WILL THE PROGRAM IMPACT LOW-INCOME CUSTOMERS?

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- A. Because the Program will result in overall system benefits, low-income customers—along with all other customers—will realize the benefit of lower utility system operating costs in the long-term.
- Additionally, in order to improve equity among customers, the Companies are planning to develop and propose a Low-Income version of the Program, contingent upon approval of the Program proposed in these dockets.

7 Q. HOW WILL THE COMPANIES DEVELOP THE LOW-INCOME PROGRAM?

The Companies will be working with the EE/DSM Collaborative to develop a scope for a study on the market penetration of EE programs with low and moderate income customers. While that study is being conducted, the Companies will begin to engage the Collaborative on program development for the Low-Income program, and those conversations will be further informed by the final market penetration report. The Companies hope to be able to propose the Low-Income program to the Commission no later than January 2023, but possibly sooner. As noted, the development and proposal of a Low-Income version of the Program is contingent upon approval of the Program proposed in these dockets, which also requires approval by the North Carolina Utilities Commission. It is typical for a utility to establish an EE program, evaluate the program and determine best practices, and then to expand the program to include low-income customers, and the Program proposed in this case should fit well within that model.

Q. WHAT IS YOUR RECOMMENDATION TO THE COMMISSION CONCERNING THE PROGRAM PROPOSED IN THE APPLICATIONS?

- 22 A. I recommend that the Commission approve the Program, as outlined in the Applications.
- No two EE programs are alike. As explained, however, the Program is consistent with the

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- EE statute and the Commission-approved Mechanism, and the projected net system
 benefits from the Program means that all of the Companies' customers will reap the
 benefits of lower on-going system costs through the Program's implementation. For these
 reasons, I believe the Commission should approve the Program, as outlined in the
 Applications.
- 6 Q. DOES THIS CONCLUDE YOUR PREFILED DIRECT TESTIMONY?
- 7 A. Yes, it does.

BEFORE

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2021-__-E

In re:)	
)	APPLICATION OF DUKE ENERGY
Application of Duke Energy Carolinas, LLC)	CAROLINAS, LLC FOR APPROVAL OF
for Approval of Smart \$aver Solar as Energy)	SMART \$AVER SOLAR AS ENERGY
Efficiency Program)	EFFICIENCY PROGRAM
)	

Pursuant to S.C. Code Ann. § 58-37-20, S.C. Code Ann. Regs. 103-823, and Order No. 2021-32 issued in Docket No. 2013-298-E, Duke Energy Carolinas, LLC ("DEC" or the "Company") submits to the Public Service Commission of South Carolina (the "Commission") this Application for approval of the Smart \$aver Solar as Energy Efficiency Program ("Program") to be included as part of its suite of energy efficiency ("EE") and demand-side management ("DSM") programs effective beginning January 1, 2022.

The proposed tariff for the Program is attached hereto as Exhibit A, and a proposed notice of the Application is attached hereto as Exhibit B. As explained below, the Company seeks approval of the Program without the need for a hearing because, consistent with S.C. Code Ann. § 58-27-870(F), the proposed Program and associated tariff do not require a determination of the entire rate structure and overall rate of return. If the Commission decides a hearing is necessary in this matter in lieu of filed comments, the Companies respectfully request the Commission to appoint a Hearing Officer to hold a scheduling conference with counsel.

In support of this Application, the Company respectfully shows the Commission the following:

- 1. The legal name and post office address of DEC is Duke Energy Carolinas, LLC, Post Office 1321 (DEC 45A), Charlotte, North Carolina 28201-1006.
- 2. The name and addresses of the attorneys of the Company who are authorized to receive notices and communications with respect to this Application are:

Heather Shirley Smith Deputy General Counsel **Duke Energy Corporation** 40 West Broad Street, Suite 690 Greenville, South Carolina 29601 Telephone: 864.370.5045 heather.smith@duke-energy.com

and

Samuel J. Wellborn Counsel for Duke Energy Carolinas, LLC ROBINSON GRAY STEPP & LAFFITTE, LLC 1310 Gadsden Street Post Office Box 11449 Columbia, South Carolina 29211 Telephone: 803.231.7829 swellborn@robinsongray.com

Copies of all pleadings, orders or correspondence in this proceeding should be served upon the attorneys listed above.

3. DEC is engaged in the generation, transmission, distribution, and sale of electric energy at retail in the western portion of South Carolina and the central and western portions of North Carolina. DEC also sells electricity at wholesale to municipal, cooperative, and investorowned electric utilities, and its wholesale sales are subject to the jurisdiction of the Federal Energy Regulatory Commission. DEC is a public utility under the laws of South Carolina and is subject to the jurisdiction of this Commission with respect to its operations in this State. DEC is also authorized to transact business in the State of North Carolina and is a public utility under the laws of that state. Accordingly, its operations in North Carolina are subject to the jurisdiction of the

North Carolina Utilities Commission ("NCUC"). Because energy efficiency programs deliver system benefits realized across state borders, program costs—including consolidated administrative costs—are also recognized across both states. To support the Program's costeffectiveness and to enable Program costs to be recovered according to the allocation of benefits, approval by this Commission and the NCUC is necessary prior to the Company offering the Program to its customers.

- 4. The Program is the result of collaboration with the Southern Environmental Law Center—on behalf of South Carolina Coastal Conservation League, Southern Alliance for Clean Energy, and Upstate Forever—the North Carolina Sustainable Energy Association, Sunrun Inc., Vote Solar, and Solar Energy Industries Association.
- 5. The purpose of the Program is to encourage reductions in energy consumption by incentivizing the installation of solar photovoltaic ("PV") facilities at residential premises. To that end, the Program is designed to reduce financial barriers and promote adoption and installation of PV facilities for eligible customers through an energy efficiency program akin to programs for other home equipment like high efficiency heat pumps and water heaters. Just as the Company encourages the installation of energy efficient equipment through rebates and incentives such as the ones given for heat pumps or water heaters—pursuant to S.C. Code Ann. § 58-37-20, as discussed below—the Program would defray the upfront costs of solar PV by providing an incentive reflective of the system benefits that such installations provide.
- 6. The Program is designed to incentivize new residential rooftop solar PV installations for the purpose of reducing behind-the-meter customer energy consumption while not reducing function for the customer. To that end, DEC proposes to offer an incentive for each new watt of solar PV installed by customers eligible for service under rate Schedule RE within the

Solar Choice Program. The Program's availability is being limited to rate schedule RE in order to support the Program's cost-effectiveness, as RE is the all-electric residential rate schedule and ensures that customers with gas service for water heating, cooking, clothes drying, and environmental space conditioning do not apply. Pursuant to the agreement referenced above, and to reflect the value of the anticipated savings, the Company proposes an upfront rooftop solar incentive of \$0.36/Watt-DC. The incentive may be assigned to a solar leasing company if the customer is in a lease arrangement or to an installer, at the customer's direction. The proposed tariff associated with the Program is attached hereto as Exhibit A.

7. The Company proposes that a customer receiving a Solar EE incentive be required to remain in the Program for 25 years and also enroll in the winter-focused Power Manager Load Control Service Rider, also known as Bring Your Own Thermostat ("Winter BYOT Program"). In Order No. 2020-831, Docket No. 2013-298-E, the Commission approved the establishment of the Winter BYOT Program, which provides for winter-focused demand response. The combination of the two programs provides programmatic synergies and enables the Program to provide both energy and capacity savings. If the customer unenrolls from the Winter BYOT Program or opts out of more demand response events than the Winter BYOT Program allows, the customer must repay a prorated share of the initial Solar EE incentive for every year the allowance is exceeded. There would be no penalty if a customer moves out of the residence prior to the expiration of the 25-year time period. Consistent with the Company's existing EE/DSM programs that require installation of more complicated EE/DSM measures (e.g., HVAC, duct insulation and repair, air sealing, etc.), to align this program with the Residential Smart \$aver program, and to support the achievement of higher cost savings and EM&V results, the proposed tariff requires that installations be performed by an approved contractor.

8. S.C. Code Ann. § 58-37-20 authorizes the establishment of the EE/DSM Mechanism recently adopted by the Commission through Order No. 2021-32 issued in Docket No. 2013-298-E. That code section also provides that such mechanisms or "procedures" "must[] provide incentives and cost recovery for energy suppliers and distributors who invest in energy supply and end-use technologies that are cost-effective, environmentally acceptable, and reduce energy consumption or demand " (emphasis added). S.C. Code Ann. § 58-27-20 further provides that, "[f]or purposes of this section only, the term 'demand-side activity' means a program conducted by an electrical utility . . . for the reduction or more efficient use of energy requirements of the utility or its customers including, but not limited to, utility transmission and distribution system efficiency, customer conservation and efficiency, load management, cogeneration, and renewable energy technologies." (emphasis added). The Company believes that the Program proposed in this Application comports with S.C. Code Ann. § 58-27-20 in that solar PV facilities are "energy supply and end-use technologies" that are "cost-effective, environmentally acceptable, and reduce energy consumption or demand," and also because the statute defines EE/DSM programs to specifically include those implemented "for the reduction or more efficient use of energy requirements of the utility or its customers including, but not limited to, . . . renewable energy technologies." Solar PV as an EE measure fits squarely within these parameters set forth by the General Assembly in the EE/DSM statute, and the Company notes that Duke Energy Progress, LLC previously offered a solar water heating pilot program under its suite of EE/DSM programs. 1

¹ See Solar Water Heating Pilot Program Final Report, Docket No. 2009-190-E (May 2, 2014).

9. Section A of the Company's EE/DSM Mechanism, appended to Order No. 2021-32 as part of Order Exhibit No. 1, requires that the Company "perform a qualitative measure screening to ensure Measures are: (a) commercially available and sufficiently mature, (b) applicable to the DEC service area demographics and climate, and (c) feasible for a utility DSM/EE Solar PV is commercially available and sufficiently mature, applicable to the Company's service area demographics and climate, and feasible for a EE/DSM program inasmuch as solar PV is routinely installed on the Company's system and the proposed Program passes the applicable cost-effectiveness screen as discussed below. Consistent with the EE/DSM Mechanism, the Program was introduced to and discussed with stakeholders in the EE/DSM Collaborative.

10. The Company has modeled the Program's cost effectiveness, and the Utility Cost Test ("UCT") score is 2.58. As required by the EE/DSM Mechanism, the Program exceeds the required 1.0 UCT score necessary, indicating that the benefits to the utility system exceed the costs. In addition to demonstrating that the utility system benefits outweigh the cost of the Program, the accepted EE cost-effectiveness screens also indicate that there will be little to no subsidization of participants in the program from non-participants. The previously applicable Total Resource Cost ("TRC") test, which also assesses the participating customer's costs and benefits in addition to the utility's, is lower at 0.86 due to the high cost of solar PV.² However, as customer costs decrease over time, the TRC score is expected to improve. Furthermore, the TRC does not include the intangible benefits of customer energy independence and resiliency, and

² As an EE program, this evaluation counts only energy consumed behind the meter in costeffectiveness testing and energy savings calculations.

environmental responsibility, which are often important parts of a customer's motivation for installing solar PV.

- 11. The projected savings will be confirmed in evaluation, measurement, and verification ("EM&V") by a third party, consistent with the guidelines outlined in the EE/DSM Mechanism,³ once adequate participation allows for a statistically valid sample. EM&V studies will use industry-accepted methods to collect and analyze data; measure and analyze Program participation; and evaluate, measure, verify, and validate the energy and peak demand savings. Methodologies such as site metering and smart meter consumption analysis may be utilized. As a component of the EM&V process evaluation, the Company will direct the evaluator to conduct a broad survey of both participating and non-participating residential customers to assess their acceptance of the Smart \$aver Solar Program. While an EM&V schedule cannot be determined until adequate participation is achieved, tentative participation targets indicate that an EM&V evaluation could be possible approximately a year after initial Program implementation. DEC has not yet identified the independent third party it plans to use for purposes of EM&V; however, EM&V costs are estimated not to exceed 5% of total Program costs. More specific EM&V costs will be included in the next annual rider filing.
- In light of the customer and system benefits of the Program, and its accord with the 12. Commission-approved EE/DSM Mechanism, the Company requests Commission approval of the Program for an effective date of January 1, 2022, and proposes to recover all costs incurred by the Company associated with the Program through the Company's EE/DSM rider in accordance with the EE/DSM Mechanism. Upon approval of the Program by this Commission and the NCUC, the

³ See Order No. 2021-32, Docket No. 2013-298-E (Jan. 15, 2021).

Company will complete its implementation plans and make the Program available to customers on January 1, 2022.

13. The Company seeks Commission approval of the Program without the need for prefiled testimony or a hearing. Consistent with S.C. Code Ann. § 58-27-870(F), the proposed Program and associated tariff do not require a determination of the entire rate structure and overall rate of return.

WHEREFORE, Duke Energy Carolinas, LLC respectfully requests that, pursuant to this Application and the provisions of S.C. Code Ann. § 58-37-20, S.C. Code Ann. Regs. 103-823, and Order No. 2021-32, the Commission:

- Approve the Program effective January 1, 2022, as proposed herein, without the (1) need for pre-filed testimony or a hearing;
- (2) Grant the Company's request to recover all reasonable and prudent costs incurred associated with the Program pursuant to the EE/DSM Mechanism through the annual EE/DSM rider proceedings; and
 - Provide any other relief deemed just and reasonable by the Commission. (3)

Respectfully submitted this 23rd day of April, 2021.

Heather Shirley Smith Deputy General Counsel **Duke Energy Corporation** 40 West Broad Street, Suite 690 Greenville, South Carolina 29601 Telephone 864.370.5045 heather.smith@duke-energy.com

s/ Samuel J. Wellborn

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Attorneys for Duke Energy Carolinas, LLC

SMART \$AVER SOLAR ENERGY EFFICIENCY PROGRAM (SC)

ELIGIBILITY

This Program is available to residential customers who meet all electric water heating and space conditioning requirements for Schedule RE and who install and operate a solar photovoltaic (PV) electric generating system. The solar PV system may either be owned by the Customer or by a lessor and leased to the Customer. The capacity rating of the system shall be no greater than 20 kilowatts AC.

To be eligible to participate in the Program and receive the incentive ("Rooftop Incentive"), the Customer must comply with all of the following:

- The Customer must become a new net metering customer on or after January 1, 2022,
- The Customer must be eligible for and participate in the Winter-focused option of the Power Manager Load Control Service program ("Rider PM") with a Customer-provided eligible Thermostat, and
- The Customer must comply with all installation and interconnection requirements of the proposed Residential Solar Choice rider ("Rider RSC").

Customers who are not willing or able to install a qualified smart thermostat and enroll in the Winter-focused option of Rider PM, or who are not willing or able to take service under Rider RSC, are not eligible for the Rooftop Incentive.

Participation under the Program is available, at the Company's sole discretion, on a "first come, first served" basis for systems installed on and after January 1, 2022.

APPLICATION REQUIREMENTS

The Customer must complete and submit an application for the Rooftop Incentive as instructed on the Company's website at www.duke-energy.com. The solar PV system shall be subject to inspection by the Company for the purposes of program evaluation, measurement, and verification.

ROOFTOP INCENTIVE PAYMENT

Upon confirmation of compliance with all eligibility requirements, the Company will provide to the Customer a one-time Rooftop Incentive payment based upon the direct current (DC) nameplate rating of the Customer's solar PV system.

- The Rooftop Incentive may be assigned to a solar installer or leasing company if the customer is in a lease arrangement.
- The Company reserves the right to adjust the incentive on a periodic basis, as appropriate, to reflect changes to efficiency standards and market conditions.
- The Company reserves the right to limit the availability of incentives by the type of residential structures required to ensure achievement of energy savings.
- The current amount of the incentive payment will be posted to the Company's website at www.duke-energy.com. The amount of the incentive will not exceed \$0.36/Watt-DC.
- All systems eligible for payment under this program must be installed based on manufacturer's recommendations and the Company's specifications, including installation by a Company-approved contractor. Detailed requirements are available on the Company's website at www.duke-energy.com.
- Incentives may be limited to one of any product, per residence, under all Company Energy Efficiency Programs.
- Customer solar PV systems must meet the performance requirements and parameters set by Duke Energy. (See General Requirements section.)

CONTRACT PERIOD

Customers receiving the Rooftop Incentive must contract to remain on Rider RSC (or future applicable net metering rider) and remain enrolled in the Winter-focused option Rider PM for a period of twenty-five (25) years.

If a customer opts out of more events than Rider PM allows in any year, the customer will be charged a \$200 fee representing an annual prorated share of the Rooftop Incentive (average customer incentive divided by 25 years). If a customer unenrolls in the Winter-focused option of Rider PM, the customer must pay back \$200 for each year of the 25-year contract period that the customer

South Carolina Original (Proposed) Leaf No. 180 Effective for service on and after January 1, 2022 PSCSC Docket No. 2021-xx-E, Order No. 2021-xxx

Electricity No. 4 South Carolina Original (Proposed) Leaf No. 180

SMART \$AVER SOLAR ENERGY EFFICIENCY PROGRAM (SC)

is not enrolled, not to exceed the customer's initial incentive payment amount. The penalties for early termination will not be assessed if the termination is due to Force Majeure or the Customer's sale of the residence.

The Company reserves the right to terminate service and request payment of the above termination charge any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Program, or operates the solar PV system in a manner which is detrimental to the Company and/or its customers. The Company may also terminate service under this Program and request repayment of the Rooftop Incentive if the Customer intentionally misstates or misrepresents the operating capacity or operating characteristics of the solar PV system.

ENVIRONMENTAL ATTRIBUTES

Incentives and other considerations offered under the terms of this Program are understood to be an essential element in the recipient's decision to participate in the Program. Upon payment of these considerations, the Company will be entitled to any and all environmental attributes, including but not limited to "renewable energy certificates" (RECs), "renewable energy credits" or "green tags," associated with the solar PV generation system and any and all environmental, energy efficiency, and demand reduction benefits and attributes, including all reporting and compliance rights, associated with participation in the Program.

GENERAL

Duke Energy will establish performance requirements deemed necessary to ensure achievement of minimum energy savings for equipment, products, and services offered for incentives, including but not limited to direction, orientation, shade, and any other factor affecting output. Parameters related to these performance requirements may include, but are not limited to, diagnostic testing, size of conditioned area, building/structure type, energy reduction achievement, installer/installation, and product selection. All requirements and parameters must be met prior to payment of Rooftop Incentive.

PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

CLERK'S OFFICE

NOTICE OF FILING

DOCKET NO. 2021- -E

Application of Duke Energy Carolinas, LLC for Approval of Smart Saver Solar as Energy **Efficiency Program**

Duke Energy Carolinas, LLC (the Company or DEC) has filed an Application for approval of the Smart \$aver Solar as Energy Efficiency Program (Program) to be included as part of its suite of energy efficiency (EE) and demand-side management (DSM) programs effective beginning January 1, 2022. As described in more detail in the filed Application, the purpose of the Program is to encourage reductions in energy consumption by incentivizing the installation of solar photovoltaic facilities at residential premises. To that end, the Program provides eligible residential net metering customers the opportunity to receive an incentive as compensation for the reduction in energy consumption that the installation and use of solar PV facilities enable. The Company's proposal would require participants to remain the Program for 25 years and to enroll in the Bring Your Own Thermostat Program. The Company proposes that the costs incurred by the Company associated with the Program be recovered through the Company's EE/DSM rider.

The Application was filed pursuant to S.C. Code Ann. § 58-37-20, S.C. Code Ann. Regs. 103-823, the Rules of Practice and Procedure of the Commission, and Order No. 2021-32. A copy of the company's Application can be found on the Commission's website at www.psc.sc.gov under Docket No. 2021- -E. Additionally, a copy of the Application is available from the corporate office of Heather Shirley Smith, Deputy General Counsel, Duke Energy Corporation, 40 West Broad Street, Suite 690, Greenville, South Carolina 29601 and Samuel J. Wellborn, Esquire, ROBINSON GRAY STEPP & LAFFITTE, LLC, 1310 Gadsden Street, Columbia, South Carolina 29201. Any person who wishes to participate in this matter as a party of record, should file a Petition to Intervene in accordance with the Commission's Rules of Practice and Procedure on or before [DATE], by filing the Petition to Intervene with the Commission, by providing a copy to the Office of Regulatory Staff and by providing a copy to all parties of record. For the receipt of future Commission correspondence, please include an email address in the Petition to Intervene. Please refer to Docket No. 2021- -E and mail a copy to all other parties in this docket. Any person who seeks to intervene and who wishes to testify and present evidence at the hearing, if scheduled, should notify, in writing, the Commission; the Office of Regulatory Staff at 1401 Main Street, Suite 900, Columbia, South Carolina 29201; and the Company at the above address, on or before . Please refer to Docket No. 2021- -E.

A public hearing, if scheduled, will be held virtually or in Columbia, South Carolina in the offices of the Commission located at 101 Executive Center Drive, Suite 100, Columbia, South Carolina 29210, for the purpose of receiving testimony and other evidence from all interested parties regarding this Application. The time and date of this hearing will be furnished to all interested parties at a later date.

PLEASE NOTE THAT INTERVENOR COMMENTS REGARDING DUKE ENERGY CAROLINAS, LLC'S FILING ARE DUE ON OR BEFORE , 2021. INTERESTED PERSONS MAY REQUEST IN WRITING PERMISSION FROM THE PUBLIC SERVICE COMMISSION TO FILE COMMENTS AFTER , 2021. COMMENTS MUST BE FILED WITH THE COMMISSION AT THE ADDRESS LISTED BELOW, AND A COPY OF THE COMMENTS MUST BE SERVED ON ALL OF THE PARTIES OF RECORD IN **DOCKET NO. 2021-** -E.

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BEFORE

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2021- -E

In re:	
)	APPLICATION OF DUKE ENERGY
Application of Duke Energy Progress, LLC	PROGRESS, LLC FOR APPROVAL OF
for Approval of Smart \$aver Solar as Energy	SMART \$AVER SOLAR AS ENERGY
Efficiency Program	EFFICIENCY PROGRAM
)	

Pursuant to S.C. Code Ann. § 58-37-20, S.C. Code Ann. Regs. 103-823, and Order No. 2021-33 issued in Docket No. 2015-163-E, Duke Energy Progress, LLC ("DEP" or the "Company") submits to the Public Service Commission of South Carolina (the "Commission") this Application for approval of the Smart \$aver Solar as Energy Efficiency Program ("Program") to be included as part of its suite of energy efficiency ("EE") and demand-side management ("DSM") programs effective beginning January 1, 2022.

The proposed tariff for the Program is attached hereto as Exhibit A, and a proposed notice of the Application is attached hereto as Exhibit B. As explained below, the Company seeks approval of the Program without the need for a hearing because, consistent with S.C. Code Ann. § 58-27-870(F), the proposed Program and associated tariff do not require a determination of the entire rate structure and overall rate of return. If the Commission decides a hearing is necessary in this matter in lieu of filed comments, the Companies respectfully request the Commission to appoint a Hearing Officer to hold a scheduling conference with counsel.

In support of this Application, the Company respectfully shows the Commission the following:

- 1. The legal name and post office address of DEP is Duke Energy Progress, LLC, Post Office 1551, Raleigh, North Carolina 27602.
- 2. The name and addresses of the attorneys of the Company who are authorized to receive notices and communications with respect to this Application are:

Heather Shirley Smith Deputy General Counsel **Duke Energy Corporation** 40 West Broad Street, Suite 690 Greenville, South Carolina 29601 Telephone: 864.370.5045 heather.smith@duke-energy.com

and

Samuel J. Wellborn Counsel for Duke Energy Progress, LLC ROBINSON GRAY STEPP & LAFFITTE, LLC 1310 Gadsden Street Post Office Box 11449 Columbia, South Carolina 29211 Telephone: 803.231.7829 swellborn@robinsongray.com

Copies of all pleadings, orders or correspondence in this proceeding should be served upon the attorneys listed above.

3. DEP is engaged in the generation, transmission, distribution, and sale of electric energy at retail in the eastern portion of South Carolina and in portions of western, central, and eastern North Carolina. DEP also sells electricity at wholesale to municipal, cooperative, and investor-owned electric utilities, and its wholesale sales are subject to the jurisdiction of the Federal Energy Regulatory Commission. DEP is a public utility under the laws of South Carolina and is subject to the jurisdiction of this Commission with respect to its operations in this State. DEP is also authorized to transact business in the State of North Carolina and is a public utility under the laws of that state. Accordingly, its operations in North Carolina are subject to the jurisdiction of the North Carolina Utilities Commission ("NCUC"). Because energy efficiency programs deliver system benefits realized across state borders, program costs—including consolidated administrative costs—are also recognized across both states. To support the Program's cost-effectiveness and to enable Program costs to be recovered according to the allocation of benefits, approval by this Commission and the NCUC is necessary prior to the Company offering the Program to its customers.

- 4. The Program is the result of collaboration with the Southern Environmental Law Center—on behalf of South Carolina Coastal Conservation League, Southern Alliance for Clean Energy, and Upstate Forever—the North Carolina Sustainable Energy Association, Sunrun Inc., Vote Solar, and Solar Energy Industries Association.
- 5. The purpose of the Program is to encourage reductions in energy consumption by incentivizing the installation of solar photovoltaic ("PV") facilities at residential premises. To that end, the Program is designed to reduce financial barriers and promote adoption and installation of PV facilities for eligible customers through an energy efficiency program akin to programs for other home equipment like high efficiency heat pumps and water heaters. Just as the Company encourages the installation of energy efficient equipment through rebates and incentives such as the ones given for heat pumps or water heaters—pursuant to S.C. Code Ann. § 58-37-20, as discussed below—the Program would defray the upfront costs of solar PV by providing an incentive reflective of the system benefits that such installations provide.
- 6. The Program is designed to incentivize new residential rooftop solar PV installations for the purpose of reducing behind-the-meter customer energy consumption while not reducing function for the customer. To that end, DEP proposes to offer an incentive for each new watt of solar PV installed by residential customers within the Solar Choice Program. In order to

support the Program's cost-effectiveness, the Program's availability is being limited to customers with all-electric service, thus ensuring that customers with gas service for water heating, cooking, clothes drying, and environmental space conditioning do not apply. Pursuant to the agreement referenced above, and to reflect the value of the anticipated savings, the Company proposes an upfront rooftop solar incentive of \$0.36/Watt-DC. The incentive may be assigned to a solar leasing company if the customer is in a lease arrangement or to an installer, at the customer's direction. The proposed tariff associated with the Program is attached hereto as Exhibit A.

7. The Company proposes that a customer receiving a Solar EE incentive be required to remain in the Program for 25 years and also enroll in the winter-focused Power Manager Load Control Service Rider, also known as Bring Your Own Thermostat ("Winter BYOT Program"). In Order No. 2020-830, Docket No. 2015-163-E, the Commission approved the establishment of the Winter BYOT Program, which provides for winter-focused demand response. combination of the two programs provides programmatic synergies and enables the Program to provide both energy and capacity savings. If the customer unenrolls from the Winter BYOT Program or opts out of more demand response events than the Winter BYOT Program allows, the customer must repay a prorated share of the initial Solar EE incentive for every year the allowance is exceeded. There would be no penalty if a customer moves out of the residence prior to the expiration of the 25-year time period. Consistent with the Company's existing EE/DSM programs that require installation of more complicated EE/DSM measures (e.g., HVAC, duct insulation and repair, air sealing, etc.), to align this program with the Residential Smart \$aver program, and to support the achievement of higher cost savings and EM&V results, the proposed tariff requires that installations be performed by an approved contractor.

- 8. S.C. Code Ann. § 58-37-20 authorizes the establishment of the EE/DSM Mechanism recently adopted by the Commission through Order No. 2021-33 issued in Docket No. 2015-163-E. That code section also provides that such mechanisms or "procedures" "must[] provide incentives and cost recovery for energy suppliers and distributors who invest in energy supply and end-use technologies that are cost-effective, environmentally acceptable, and reduce energy consumption or demand " (emphasis added). S.C. Code Ann. § 58-27-20 further provides that, "[f]or purposes of this section only, the term 'demand-side activity' means a program conducted by an electrical utility . . . for the reduction or more efficient use of energy requirements of the utility or its customers including, but not limited to, utility transmission and distribution system efficiency, customer conservation and efficiency, load management, cogeneration, and renewable energy technologies." (emphasis added). The Company believes that the Program proposed in this Application comports with S.C. Code Ann. § 58-27-20 in that solar PV facilities are "energy supply and end-use technologies" that are "cost-effective, environmentally acceptable, and reduce energy consumption or demand," and also because the statute defines EE/DSM programs to specifically include those implemented "for the reduction or more efficient use of energy requirements of the utility or its customers including, but not limited to, . . . renewable energy technologies." Solar PV as an EE measure fits squarely within these parameters set forth by the General Assembly in the EE/DSM statute, and the Company notes that it previously offered a solar water heating pilot program under its suite of EE/DSM programs.¹
- 9. Section A of the Company's EE/DSM Mechanism, appended to Order No. 2021-33 as part of Order Exhibit No. 1, requires that the Company "perform a qualitative measure

¹ See Solar Water Heating Pilot Program Final Report, Docket No. 2009-190-E (May 2, 2014).

screening to ensure Measures are: (a) commercially available and sufficiently mature, (b) applicable to the DEP service area demographics and climate, and (c) feasible for a utility DSM/EE Solar PV is commercially available and sufficiently mature, applicable to the Company's service area demographics and climate, and feasible for a EE/DSM program inasmuch as solar PV is routinely installed on the Company's system and the proposed Program passes the applicable cost-effectiveness screen as discussed below. Consistent with the EE/DSM Mechanism, the Program was introduced to and discussed with stakeholders in the EE/DSM Collaborative.

10. The Company has modeled the Program's cost effectiveness, and the Utility Cost Test score is 1.95. As required by the EE/DSM Mechanism, the Program exceeds the required 1.0 UCT score necessary, indicating that the benefits to the utility system exceed the costs. In addition to demonstrating that the utility system benefits outweigh the cost of the Program, the accepted EE cost-effectiveness screens also indicate that there will be little to no subsidization of participants in the program from non-participants. The previously applicable Total Resource Cost ("TRC") test, which also assesses the participating customer's costs and benefits in addition to the utility's, is lower at 0.74 due to the high cost of solar PV.² However, as customer costs decrease over time, the TRC score is expected to improve. Furthermore, the TRC does not include the intangible benefits of customer energy independence and resiliency, and environmental responsibility, which are often important parts of a customer's motivation for installing solar PV.

11. The projected savings will be confirmed in evaluation, measurement, and verification ("EM&V") by a third party, consistent with the guidelines outlined in the EE/DSM

² As an EE program, this evaluation counts only energy consumed behind the meter in costeffectiveness testing and energy savings calculations.

Mechanism,³ once adequate participation allows for a statistically valid sample. EM&V studies will use industry-accepted methods to collect and analyze data; measure and analyze Program participation; and evaluate, measure, verify, and validate the energy and peak demand savings. Methodologies such as site metering and smart meter consumption analysis may be utilized. As a component of the EM&V process evaluation, the Company will direct the evaluator to conduct a broad survey of both participating and non-participating residential customers to assess their acceptance of the Smart \$aver Solar Program. While an EM&V schedule cannot be determined until adequate participation is achieved, tentative participation targets indicate that an EM&V evaluation could be possible approximately a year after initial Program implementation. DEP has not yet identified the independent third party it plans to use for purposes of EM&V; however, EM&V costs are estimated not to exceed 5% of total Program costs. More specific EM&V costs will be included in the next annual rider filing. In light of the customer and system benefits of the Program, and its accord with the Commission-approved EE/DSM Mechanism, the Company requests Commission approval of the Program for an effective date of January 1, 2022, and proposes to recover all costs incurred by the Company associated with the Program through the Company's EE/DSM rider in accordance with the EE/DSM Mechanism. Upon approval of the Program by this Commission and the NCUC, the Company will complete its implementation plans and make the Program available to customers on January 1, 2022.

The Company seeks Commission approval of the Program without the need for pre-12. filed testimony or a hearing. Consistent with S.C. Code Ann. § 58-27-870(F), the proposed Program and associated tariff do not require a determination of the entire rate structure and overall rate of return.

³ See Order No. 2021-33, Docket No. 2015-163-E (Jan. 15, 2021).

WHEREFORE, Duke Energy Progress, LLC respectfully requests that, pursuant to this Application and the provisions of S.C. Code Ann. § 58-37-20, S.C. Code Ann. Regs. 103-823, and Order No. 2021-33, the Commission:

- (1) Approve the Program effective January 1, 2022, as proposed herein, without the need for pre-filed testimony or a hearing;
- (2) Grant the Company's request to recover all reasonable and prudent costs incurred associated with the Program pursuant to the EE/DSM Mechanism through the annual EE/DSM rider proceedings; and
 - (3) Provide any other relief deemed just and reasonable by the Commission.

Respectfully submitted this 23rd day of April, 2021.

Heather Shirley Smith
Deputy General Counsel
Duke Energy Corporation
40 West Broad Street, Suite 690
Greenville, South Carolina 29601
Telephone 864.370.5045
heather.smith@duke-energy.com

s/ Samuel J. Wellborn

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Attorneys for Duke Energy Progress, LLC

Duke Energy Progress, LLC (South Carolina Only)

SC Program SSSEE-1

RESIDENTIAL SERVICE – SMART \$AVER® SOLAR ENERGY EFFICIENCY PROGRAM - SSSEE-1

ELIGIBILITY

The Program is available to owners of individually metered residences including single family detached, duplexes, townhomes, condominiums, and mobile homes, who are served on a residential service schedule and who install and operate a solar photovoltaic (PV) electric generating system. The solar PV generating system by either be owned by the Customer or by a lessor and leased to the Customer. The capacity rating of the system shall be no greater than 20 kilowatts AC.

To be eligible to participate in the Program and receive the incentive ("Rooftop Incentive"), the Customer must comply with all of the following:

- The Customer must become a new net metering customer on or after January 1, 2022,
- The dwelling where all energy required for water heating, cooking, clothes drying, and environmental space conditioning must be supplied electrically, and all electric energy used in such dwelling must be recorded through a single meter,
- The Customer must be eligible for and participate in the Winter-focused option of Rider LC (Residential Service Load Control program) with a Customer-provided eligible Thermostat,
- The Customer must comply with all installation and interconnection requirements of the proposed Residential Solar Choice rider ("Rider RSC").

Customers not willing or able to install a qualified smart thermostat and enroll in the Winter-focused option of Rider LC or not willing or able to take service under the Solar Choice tariff are not eligible for the Rooftop Incentive.

Participation under the program is available, at the Company's sole discretion, on a "first-come-first-served" basis for systems installed on and after January 1, 2022.

APPLICATION REQUIREMENTS

The Customer must complete and submit an Application for the Program as instructed on the Company's website at www.duke-energy.com. The solar PV generating system shall be subject to inspection by Company for the purposes of program evaluation, measurement, and verification.

ROOFTOP INCENTIVE PAYMENT

Upon confirmation of compliance with all eligibility requirements, the Company will provide to the Customer a one-time Rooftop Incentive payment based upon the direct current (DC) nameplate rating of the Customer's solar PV electric generating system.

- The Rooftop Incentive may be assigned to a solar installer or leasing company if the customer is in a lease arrangement.
- The Company reserves the right to adjust the incentive on a periodic basis, as appropriate, to reflect changes to efficiency standards and market conditions.
- The Company reserves the right to limit the availability of incentives by the type of residential structures required to ensure achievement of energy savings.
- The current amount of the incentive payment will be posted to the Company's website at www.duke-energy.com. The amount of the incentive will not exceed \$0.36/Watt-DC.
- All systems eligible for payment under this program must be installed based on manufacturer's recommendations and the Company's specifications, including installation by a Company approved contractor. Detailed requirements are available on the Company's website at www.duke-energy.com.
- Incentives may be limited to one of any product, per residence, under all Company Energy Efficiency Programs.
- Customer solar PV systems must meet the performance requirements and parameters set by Duke Energy. (See General Requirements section.)

CONTRACT PERIOD

Customers receiving the Rooftop Incentive must contract on Rider RSC (or future applicable net metering rider) and remain enrolled in the Winter-focused option Rider LC for a period of twenty-five (25) years.

If a customer opts out of more events than the Winter-focused option of Rider LC allows in any year, the customer will be charged a \$200 fee representing an annual prorated share of the Rooftop Incentive (average customer divided by 25

SC Program SSSEE-1

Duke Energy Progress, LLC (South Carolina Only)

years). If a customer unenrolls in the Winter-focused option of Rider LC, the customer must pay back \$200 for each year of the 25-year contract period that the customer is not enrolled, not to exceed the customer's initial incentive payment amount. The penalties for early termination will not be assessed if the termination is due to Force Majeure or the Customer's sale of the residence.

The Company reserves the right to terminate service and request payment of the above termination charge any time upon written notice to the Customer in the event that the Customer violates any of the terms or conditions of this Program, or operates the generating system in a manner which is detrimental to the Company and/or its customers. The Company may also terminate service under this Program and request repayment of the rooftop incentive if the Customer intentionally misstates or misrepresents the operating capacity or operating characteristics of the solar PV electric generating system.

ENVIRONMENTAL ATTRIBUTES

Incentives and other considerations offered under the terms of this Program are understood to be an essential element in the recipient's decision to participate in the Program. Upon payment of these considerations, the Company will be entitled to any and all environmental attributes, including but not limited to "renewable energy certificates" (RECs), "renewable energy credits" or "green tags," associated with the solar PV generation system and any and all environmental, energy efficiency, and demand reduction benefits and attributes, including all reporting and compliance rights, associated with participation in the Program.

GENERAL REQUIREMENTS

Duke Energy will establish performance requirements deemed necessary to ensure achievement of minimum energy savings for equipment, products, and services offered for incentives, including but not limited to direction, orientation, shade, and any other factor affecting output. Parameters related to these performance requirements may include, but are not limited to, diagnostic testing, size of conditioned area, building/structure type, energy reduction achievement, installer/installation, and products election. All requirements and parameters must be met prior to payment of Rooftop Incentive.

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